

Geminivirus-Transmission on Potato Tubers

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Emerging diseases, such as those caused by geminivirus (Family *Geminiviridae*) transmitted by the whitefly *Bemisia tabaci*, had been detected infecting potato (*Solanum tuberosum* L.) fields over the last year, in Brazil. A study to investigate geminivirus-transmission via tubers was carried out using four potato accessions. Potato tubers were obtained from individual plants that showed geminivirus-like symptoms in the field. All plants were previously tested for geminivirus by PCR, using a pair of universal primers, and produced DNA fragments of ca. 1.2 kb. The identification of virus species is underway. Planting of tubers (accessions #1=18 tubers; #2=10; #3=6; #4=11) was performed in 2 liter pots containing sterile soil, in a greenhouse. During the time course of the experiment plants were protected against insects by using insecticide at tuber planting and spraying on plants once a week. Symptom expression was evaluated at 35-40 days post-planting. Furthermore, total DNA extracted from leaf samples collected from individual plants was tested for geminivirus by PCR. The majority of plants of the four accessions exhibited yellow mosaic symptoms, starting at 30-40 days after planting, with more than 80% of symptomatic plants. PCR test results indicated a high percentage of infected plants, which have been originated from tubers collected from geminivirus-infected plants: 100% (accessions # 1, 2 and 3) and 82% (#4). These data indicate the great importance of these viruses to potato cultivation, since it is vegetatively propagated and prone to accumulate viruses that affect production.

Keywords- detection, virus, PCR, universal primers